2: Hockings E-4,5 (1962-1977) 1980
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175 succeeded in adapting to their new social and geographic environ-
174 ment. We may presume that natural selection helped the population build up a genetic resistance to whatever montane illnesses had not previously affected the people when they were living in Mysore and that some lowland disease organisms were no longer able to survive at the new elevation, either because it was too high and cold for them or because the hosts among the scattered and tiny population died off without transferring these organisms to new hosts, or more probably because the population density was so low that, after one infection by any particular disease organism, antibodies were built up that protected all Badagas from any further infection in the near future. As the settlements expanded, the increasing numbers of people permitted greater transference of disease organisms and called for greater amounts of health care; but at the same time these settlements, located in most parts of the Nilgiri Plateau within a zone that lay between 1,200m and 2,200m feet elevation, gave people opportunities to select the more healthy residential sites, to explore micro-environmental differences in the area and most importantly to discover medicinal uses for dozens of new species of plants that were in many instances confined to the Plateau. We may presume that the pharmacological uses of local plants were discovered by Badaga women who worked as goatherds and closely observed the feeding habits of their animals. While it is true that Badagas do not keep goats today, they did so during the seventeenth century and later too.

175 After contact with the British a new equilibrium with their
177 changed environment was achieved by the Badagas, and their
184 population was able to increase rapidly for several decades while there was still a very low density of population. Why? One relevant factor, I would hypothesise, was that a change in their drinking habits followed the arrival of the British (from 1819 onward) and that this was associated with greater resistance to bacteria in the
• [212] drinking water. The main drinks of the community at the time
[213] were fresh milk and stream water. Yet by the 1840s arrack, a locally made liquor, as well as tea and coffee, were common Badaga preferences. Other cultural practices confined infectious bacteria to relatively limited areas. Buffalo dung tended to collect
[514] in the stone kraals built just outside the villages. Similarly, indiscriminate spitting was not tolerated and spittoons were consequently in common use. A proverb stressed that, 'If you ask for an obligation it is essential to see the right people; it is essential

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goats recently, they did so during the seventeenth century and even later (Finicio 1603: 723; Birch 1838:103).

1.7. After contact with the British a new adjustment with their changed environment was achieved by the Badagas, and their population was able to increase rapidly for several decades while there was still a very low density of population. One relevant factor, I would hypothesize, was that a change in their drinking habits followed the arrival of the British (from 1819 onward), and that this was associated with greater resistance to bacteria in the drinking water. The main drinks of the community at the time were fresh milk and stream water: "...at midday, or towards evening, parties of them are often to be seen seated on the bank of some brook or rill, partaking of their simple fare, which generally consists of barley or other meal, mixed up with some of the pure element that is gurgling past them, a little salt, and a little chilly" (Harkness 1832: 111; so also Young 1827: 42, Birch 1838:103, and Dulles 1835: 465-66). Two British officials, one a surgeon, make it clear that until the 1830s the Badagas had no alcohol, and "drunkenness is unknown here" (Macpherson 1820: lix; Ainslie 1834: 36). But the surgeon had already in 1829 recorded that he had "tasted very tolerable specimens of beer which had been brewed on these hills from malt of Native Manufacture" (Price 1908: 218). Within another two decades a staggering change had come about:

> Lord Tweeddale...in 1847,...stated that he had never anywhere seen such widespread and continuous drunkenness amongst low-class natives as prevailed there [the Nilgiri town of Ootacamund], not only in the case of those resident, but also in that of peons, followers, and servants, brought up from Madras and other places. The drink at this time available was...arrack, which ...was not very expensive. (Price 1908: 51)

This drunkenness was more of an urban than a rural phenomenon, although some Badagas did go to the town to indulge themselves. Meanwhile, at the same time that beer and arrack were becoming available, so were tea and coffee. These hot drinks were generally preferred by the Badagas to stream water, because of the cool climate, even though they had a religious tabu against heating milk (Vivekanandam Pillai 1937: 247). In this latter regard, I was told that if one keeps milk in a warm place it will "boil up" of its own accord

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after a few hours. This seemingly trivial belief had a hygienic importance, for it meant that fresh milk would be used quickly and not kept, lest the tabu about boiling be violated. If milk were allowed to "boil up" (i.e., curdle) *of its own accord*, this was taken as an omen of imminent danger or death for the household, and thus a very serious matter indeed.

The effect upon Badaga health of the changes in drinking habits outlined above was reinforced by other cultural practices, specifically in regard to buffalo dung and spitting. Various maps of Badaga villages made in the first half of the nineteenth century show that several stone kraals were located just outside each village. This means that the fecal matter of buffalo herds was confined to a certain place; (I have myself seen dung over a foot deep in some kraals). Unsavoury though these places must have been, they ensured that the dung was not spread throughout the habitation area of each village, and this substantially reduced "the chance of transference of enzootic and epizootic diseases to man" (Alland 1970: 56). As the value of farmland for tea and potato cultivation grew, especially during the present century, the Badaga population increased dramatically but the size of the cattle herds dwindled. The present-day situation is therefore that Badaga population density is vastly higher than it was, but the risks of cattle-borne infection are proportionately much less because the lack of grazing has forced them to make heavy reductions in the size of their herds and abandon many of the kraals.

As we shall see below (2.11), indiscriminate spitting was not allowed in and near the home or temple. Spittoons were used inside the house; and a proverb stressed that, "If you ask for an obligation it is essential to see the right people: it is essential to spit in the proper place." With this attitude prevalent, the spread of various viruses and of *Mycobacterium tuberculosis* has been greatly curtailed. The regular washing of the body and shaving of pubic hair described below (2.9, 2.13) have also contributed to health by restricting the incidence of bodily fungi and lice-borne diseases (Alland 1970: 58). In nearly all villages the houses are built in parallel lines with solid stone or brick walls partitioning each house from its neighbours. In Ke:ti, a typical village in this respect, it was found that on the average each row of houses was separated from those in front and behind it by a distance of 10 meters, which was mostly the span of the courtyards. This relative lack of crowding of living space has

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also contributed to a reduction in the spread of viruses, particularly as the cattle are generally kept away from these courtyards fronting the houses.

The ecological significance of these various beliefs and practices is that as the Nilgiri population increased in the nineteenth century and some village streams began to be polluted by this new pressure, the Badagas managed to avoid some contamination by switching from drinking stream water and fresh milk to tea, coffee and sometimes alcohol, all of which would be relatively free of bacterial organisms. The new balance with the environment that this change brought about was certainly one factor in the remarkable increase in the Badaga population ever since the advent of the British (Diagram 1).

At the same time that this change in drinking habits was occurring their eating habits were undergoing an equally radical transformation. In part this was due to the several dozen types of fruit, grain and vegetable introduced from Europe by British settlers and adopted by most Badagas (2.1, Table 2; Hockings 1973: 867). The variety of their diet was thus greatly improved. Also the earlier habit of eating a midday meal, often in open air (Harkness 1832: 111), tended to cease as more and more Badaga adults began working for an hourly or daily wage on the plantations and construction projects initiated by the British, and as increasing numbers of children spent the day in school. In the later nineteenth and early twentieth centuries it thus became usual for Badagas to consume only two meals a day, generally in their own homes, one at sunrise and the other in the evening. The importance of this practice from a hygienic viewpoint was that, because flies are normally active only during daytime, "eating at night or in the early morning may protect food from fly-borne contamination" (Alland 1970: 59). Any change of diet or of custom that tended to reduce the human intake of bacterial organisms was reflected in the greatly increased life expectancy during the past century and a half.

1.8. By the later nineteenth and the twentieth centuries successful exploration of the botanical realm and this steadily increasing Badaga population had, through a process of interaction and by individual experiments, observations of animal browsing, or other acts of discovery about which we can know nothing, developed the third phase in their medical history — the full-fledged therapeutic system described in this book. As an increasingly heavy work-load was

262	**MEATS :**			
261	eggs	×		
	mutton	×		
	chicken	×		
	fish	×		
	Nilgiri "ibex" or tahr	×		
	pork		×	
	OILS :			
	gingelly oil	×		79, 104-105, 109, 113, 126
	coconut oil	×		74, 85, 112, 134
	castor oil		×	74, 80, 104, 113, 118, 128
	STIMULANTS, NARCOTICS :			
[272]	coffee	×		77, 80, 82
[270]	chewing tobacco	×		104, 111, 128-129
[273]	brandy	×		80
	arrack	×		
[276]	opium	××		80-81, 127, 131, 139
	betel with lime		×	
[272]	tea		×	
	OTHER MISCELLANEOUS FOODS :			
[263]	salt	×		
	milk	×		
	honey	×		
	vibuti (sacred ash)		×	
	weathered feldspar "earth"		×	
	crude sugar (jaggery)		×	81
	buttermilk		×	
	clarified butter		×	
	curds		×	
	crude palm sugar		×	
	black pepper		×	
	water		×	
	butter		××	
[263]	spices (cooked in curry)	?	?	?

(*Note* : xx indicates an extreme heating or cooling effect.)

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mouth (e.g. black pepper) are considered cooling by Badagas. Furthermore milk is somewhat heating, whereas buttermilk is cooling. Especially curious is the case of the hill gooseberry, which is a cooling food but is treated as heating because "it has many small seeds inside which dry in the bowels and so cause constipation." The best subjective explanation that I have been able to provide for the Badaga categorization is that the heating foods may be more indigestible than others, and hence have a greater tendency to cause heartburn. This is not however what informants told me, and I hesitate to venture the idea.

Preparation of Food

2.2. Badaga cuisine has two aspects to it: one is the preparation of a meal, the second is the preservation of food for its future use.

While Badagas do not have ovens, they have a variety of cooking techniques. A large pot with a rack fitted inside can be used like an oven for baking. Frying, boiling and roasting are the other cooking techniques. (One simple example of a delicacy made from the leaves of cabbage or prince's feather is as follows. The leaves are cut up fine and boiled in water; the water is then drained off. Oil or clarified butter is heated in another pot with onion, mustard and chili. These are cooked until they smell good, then the boiled leaves are added.)

Boiled rice and, until very recently, several millets, form the staple of each Badaga meal. A meal is not considered complete without a curry, however, to be eaten with the rice or millet. This is a vegetable curry more often than not, since even the meat-eaters who make up the great majority of the Badaga population are not able to have meat at every meal. A Badaga proverb reminds us, "If there is no taste in the sauce, will there be taste in the [curry] pieces?" Milk makes the food richer: "If the milk [in cooking is too] much, will the food be spoiled?"—obviously not. Butter is not recommended, however, because it may attack the lungs with "cold" unless it is first clarified by heating.

Eggs, less commonly cooked than mutton, are boiled, fried, or made into omelettes. Some people now eat them raw. Fish is rarely cooked by Badagas, largely because they dislike the smell and are afraid of the bones. (A fish-bone is dislodged from the throat by swallowing balls of boiled rice.) Badagas like their meat hot and peppery

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Badagas typically eat twice daily, once in the morning around eight o'clock and then again in the evening (Gaymard 1924: 3).[1] Each meal consists usually of two courses, the first being a curry, probably of vegetables, eaten with rice or millet. The second course, providing a third of the bulk of the meal, is curd or buttermilk. Usually with this latter course people eat a teaspoonful or so of hot lime relish, made with limes, chilies and salt. Despite the ground chilies it is "neutral" in its heating effect, and is said to dispel a disease characterized by dizziness, nausea and vomiting. At other times of the day Badagas "drink coffee, which because of the cold climate is a necessity for them and not a luxury" (Vivekanandam Pillai 1937: 247). The tedium of these meals is relieved by occasional sweets made from crude sugar, honey, or high-quality millets. Fruits are always appreciated too: "Who died by eating a jackfruit? Who expanded by eating a banana?"

The usual meal and its preparation have been described in these terms:

> The women pound regularly every day in their mortars of stone... a kind of millet, which forms the basis of the daily alimentation. The grain thus decorticated is boiled and served. They sit down on the floor...and...with the fingers of the right hand they crush these boiled grains and dip them in a sauce mostly composed of pepper, mustard and coriander; of this spiced mixture they make little balls of which they consume a number according to their appetite.
>
> Sometimes the housewives prepare cakes of cornflour boiled and mixed with honey and milk. Butter is used for seasoning (Tignous 1911: 116-17).

In most Badaga homes each Monday, the weekly holiday, and in the more well-to-do ones on both Mondays and Fridays, a woman should not cook ordinary green vegetables for the curry but make a richer meal, using beans and peas and, if non-vegetarian, some meat for the dish. A similarly rich dish should be prepared for a

[1]Readers who may be confused by my apparent use of an "ethnographic present" here and throughout the book should know that *if I put a statement in the present tense it is to the best of my knowledge currently valid, and if I follow it with a citation date, such as 1924, it was also noted at that time.*

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month, or else have a difficult delivery during the ninth month and produce a lean, unhealthy baby. 843

If the woman's eyes turn red, she gets diarrhoea, feels uneasy, and her lips are itchy, these signs indicate that she indeed has too much "heat" in the body, and that she is not having food regularly or in enough quantity. If there is a lot of "heat" she will have heartburn before or after meals, and will cough; but the excess "heat" can only be noticed by any of these signs, not by feeling the actual temperature of the body.

The "heat" can be reduced by feeding the patient buttermilk or butter. In an extreme case she can be given a special mixture. Lime juice is put in a pot, and buffalo milk is milked directly from the animal onto the juice, and then drunk immediately. (Cow's milk can be used instead, but is not so effective.) This drink is given to her every morning for two or three weeks, before she takes any food. [272]

In the fourth, sixth and seventh months the woman can be carefree. In even numbered months, the fourth, sixth and eighth, she may cross the hamlet boundary and visit her father's house, provided she does not stay there overnight. In odd-numbered months, the fifth, seventh and ninth, she can stay there overnight.

4.4. At an odd-numbered month, generally the fifth or seventh month of a girl's first pregnancy only, she and her husband go through a ceremony that confirms their marriage. This occurs on a day after the new moon and before the full moon; it must be an auspicious day—a Monday, Friday, Wednesday or Sunday, in that order of preference. Although no mention is made of the pregnancy, everyone is aware that it has led to a stable marriage and the woman is no longer a mere servant of the man: "For the woman without children there is no house; for the man without an ox there is no place" (Verghese 1963: 422). Hence the ceremony: 843 585 851 [777] [581] [539]

> . . . it seals the marriage contract, and, after its performance, divorce can only be obtained through the decree of the panchāyat (tribal council). Moreover, if it has not been performed, a man cannot claim the paternity of the child . . . The husband and wife are seated in the midst of those assembled . . . and the former asks his father-in-law whether he may throw the thread round his wife's neck, and, having received permission, proceeds to do so . . . On the day of the ceremony, the man

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not savour the idea of that; (although if it happens nothing in particular follows). Should the infant die shortly afterwards, before it has been named, it too is treated as afterbirth material and buried at the usual cemetery. If someone asks the mournful family who has died, the answer must be "No one." 844 766

4.13. For the first day or two after birth the mother is given a hot bath four or five times daily. Up till this time she cannot bathe herself, but must have some woman help her. After that time she bathes herself in hot water, twice daily until 25 to 30 days after delivery, and thereafter once daily. Always, the water used is hot. The baby is given a bath three times daily for the first eight days, then twice a day till the nineteenth day, and thereafter once daily, in the evening only. 846 515 (854)

In the old days, the newly delivered mother was given a special preparation of little millet. This was first baked, and then boiled till it was a mushy porridge (Birch 1838: 104). Now she eats a non-liquid curry. For that peppercorns are fried in a clarified butter, then ground up on the curry grinder. Then some garlic is fried, and salt, tamarind and clarified butter mixed with it while it is kept warm beside the fire. A limited amount of this food is given to the mother twice daily until the fourth or fifth day after delivery, by an old woman who will restrict the quantity even though the mother might want more. Thereafter, for the next 20 to 40 days, according to the state of the mother's health, she continues with this as her morning meal, but in the evenings has paddy rice and lentil soup. She can take a small amount of milk, even from the day of her delivery. This can only be cow's milk, and must be boiled before drinking. It is recognized that a woman who has given birth may appear weak and ugly, and repeated births can lead to ill-health. A proverb puts it this way: "The appearance of a woman who has just given birth to one child is like the appearance of a heifer which has given birth that day." 846 262 (178) (272) (751) (539)

No woman who has given birth may touch any household utensils till the third, fifth, seventh or ninth day after the first full or new moon, I was told; alternatively it has been reported that she must first see the crescent moon before the period of pollution can end (Thurston 1909: 109). She should be given no work for eight days before or eight days after her delivery: during that fortnight her husband must provide for all her needs, even if he is on the point of divorcing her. It used to be that after five, seven, 846 821 783